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# Manipal Institute of Technology, Manipal

(A Constituent Institute of Manipal University)

## VI SEMESTER B.TECH (ELECTRICAL & ELECTRONICS ENGINEERING)

## END SEMESTER EXAMINATIONS, MAY 2016

SUBJECT: COMPUTER NETWORKS [ELE 332]

(PROGRAM ELECTIVE – 1)

**REVISED CREDIT SYSTEM**

Time: 3 Hours **11 MAY 2016** MAX. MARKS: 50

**Instructions to Candidates:**

- Answer **ANY FIVE FULL** questions.
- Missing data may be suitable assumed.
- Draw diagrams wherever necessary.

1A Explain the reference model widely known for its protocols with neat diagram (05)

1B What is the principle difference between connection-oriented communication and connectionless communication (02)

1C Explain the step by step process involved in transforming a working document into an internet standard (03)

2A A service provider is granted a block of address in class full addressing with the beginning address as 14.24.74.0/24. The service provider needs to have 2 subblocks of addresses to get connected to customers as shown below:

a) One subblock with 60 addresses

b) One subblock with 16 addresses

Diagrammatically show the network information highlighting the address wastage (04)

2B Subnet the network address 192.168.10.0/24 with subnet mask /28; determine and tabulate the following:

a) No. of subnets

b) Valid subnets

c) Broadcast address for each subnet

d) Valid hosts (04)

2C Differentiate layer 2 and layer 3 broadcast with one example for each (02)

3A Consider the newly established network shown in fig 3A. Draw the routing table formed at the beginning and end of the convergence time by each router. Also configure the routers using RIP. (06)

3B Explain with neat diagram the technique used to handle pin-hole congestion problem by equal cost and unequal cost protocol links. (04)

4A Define virtualization? Brief about the key properties of virtualization (04)

4B What are BPDUs? Explain the process of selecting the root bridge, root ports and designated ports using BPDUs with examples. (04)

4C When can a VTP domain be created? Explain the method of sharing VLAN data inside and outside the domain. (02)

5A What is the relation between cloud and datacenter? Explain the range of services offered by the cloud vendors (04)

5B What is the significance of NIC? Explain server multihoming with neat diagrams (04)

5C Explain the data replication methods used between primary and distributed data center (02)

6A Write short notes on the following issues related to Voice over IP technology

1) Jitter
2) Echo
3) Packet loss (05)

6B Briefly explain the two access methods of ISDN with diagrams (05)

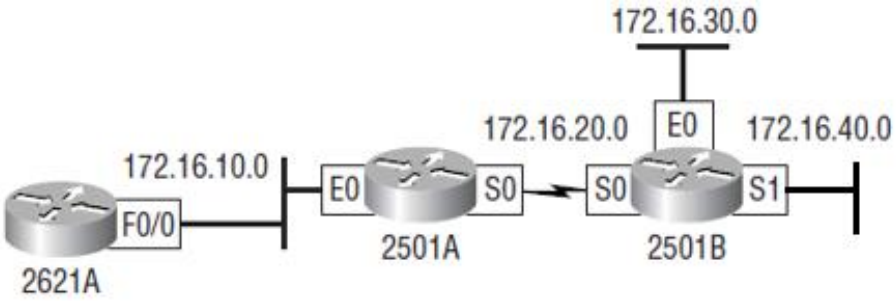


Fig 3A